U.S. Department of Justice

United States Attorney
Northern District of Mississippi

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February 3, 2023

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Re: United States v. Jamarr Smith, et al.
NDMS Criminal No. 3:21-CR-107

Dear Counsel:

Pursuant to Rule 16(a)(1)(G) of the Federal Rules of Criminal Procedure, please be advised that the government may call an expert in its case-in-chief. This letter is to supplement: (1) the original expert notice provided to you on March 10, 2022; (2) the Curriculum Vitae for Christopher R. Moody sent to you on the same day. Please note, the government reserves the right to further supplement this notice.

A. Technical Surveillance Coordinator Christopher R. Moody -- Cell Site and Google Data and Location Analysis

The government intends to call at trial Technical Services Coordinator Christopher R. Moody as an expert in the field of cellular phone technology, cellular towers, and the analysis of historical cellular phone records for the purpose of determining the approximate location from

which a phone was used at a particular time or range of times. In addition, the government intends to call Mr. Moody as an expert in device location analysis, location data analysis, and Google location data history analysis for the purpose of determining the approximate location from which a device with Google location history activated was used at a particular time or range of times.

Cell Site and Device Location Analysis

Mr. Moody is the Technical Surveillance Coordinator with the Postal Inspection Service Technical Surveillance Unit. He has been trained by the FBI, private companies, and the major cellular phone providers in this country to analyze cellular phone call and tower data to locate cell phones for the purpose of locating missing persons and suspected criminals. Mr. Moody will testify at trial that this is accomplished, essentially, by determining the location of the cellular tower or towers used by a cellular phone, as well as how the cellular towers were used by a phone to transmit or receive a phone call or text message. Mr. Moody will discuss how towers operate, how cellular signals are sent and received, and how cellular towers are used in cellular calls. Mr. Moody will explain that whether a cellular phone ends up using a particular cellular tower depends on various factors, including signal strength, the cell phone's distance from the cell tower, any obstructions between the cell phone and the cell tower, and whether cell towers in a particular area are experiencing high cellular traffic.

Mr. Moody will testify that cellular phones use radio frequencies to communicate. He will explain that when a cellular phone is not off, in "Airplane" mode, or otherwise disabled, the cellular phone constantly scans its environment, evaluating and ranking which towers have the strongest signal. The government expects that Mr. Moody will testify that when a cellular phone places or receives a call or text message, it will utilize the cellular tower and sector with the strongest signal. Mr. Moody will explain that a typical cell tower has three 120-degree sectors, which are labeled numerically, and that that the tower with the strongest signal generally is closest to the phone or in its direct line of sight. He will describe how the antennas on a cell tower are pointed at the Earth and are fine-tuned to provide a specific area of coverage. As the radio frequency travels away from the tower, the strength diminishes.

At trial, Mr. Moody will explain how cell phones interact with cell towers, as well as interpret the call detail records. Mr. Moody will testify that cell phone companies maintain databases that capture and store information related to the usage of each customer's cellular phone. These databases generate call detail records (CDRs). The CDRs document the network interactions to and from the cell phone, to include the date, time, duration, number called, and calling number. Additionally, the CDRs capture the cell tower and cell sector ("cell site") that served the cell phone when contact was initiated with the network. An analysis was performed on the CDRs obtained for the subject cell phones. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the subject cell phone when it initiated contact with the network. A graphical representation has been prepared by Mr. Moody which shows the approximate geographic areas of the subject cell phone when the cell phone initiated contact with the network.

Google Location Data and Device Location Analysis

Mr. Moody will testify about location coordinates provided by Google, LLC for the Google

accounts [redacted]@gmail.com and [redacted]@gmail.com. Mr. Moody's testimony will be based on his training, education, and experience in the analysis of data location records from Google, LLC ("Google"), including the collection and use of location history data, and the process of collecting location coordinates more generally, as detailed in the video animation previously sent to you.

Mr. Moody will discuss his familiarity with Google's business model. He will discuss that as part of Google's business model, providing free products and services to users (e.g. Internet search engine, email, maps, videos, and other applications), Google obtains users' location data and provides advertisers with the user's location and location behavior information. He will discuss how the location data allows Google to approximate the location of a user's device to promote nearby businesses through targeted advertising. Mr. Moody will explain that location history will include information Google receives from the location reporting device setting that allows the user's device to send location data back to Google for use in the location history setting. Mr. Moody will explain when location history is activated then information is sent to Google at regular intervals to help locate the device.

Mr. Moody will discuss how Google determines where a device is located using GPS information, WiFi access points, and cellular towers. He will explain that when using GPS, a device searches for signals from multiple satellites. A measurement of the time it takes for the signal to get from the satellite to the device is taken and using the differential of times Google can figure out where the device is located. Mr. Moody will discuss how this differs from WiFi access points, cell towers, or Bluetooth where the signal strength is used to map the location of the device.

Mr. Moody will discuss how Google collects WiFi data. He will explain that in years past, Google used the wardriving, a technique whereby Google placed WiFi equipment in a car and drove around using GPS to locate and measure WiFi access points. Mr. Moody will discuss the evolution of that technique and how Google now uses crowdsourcing to collect WiFi data. Using this newer method, Google collects WiFi access point data through its application platform and Android devices. This allows Google to have billions of data points and provides more precise information about WiFi access points.

A copy of Mr. Moody's curriculum vitae is enclosed with this letter.

Previous Cases where Mr. Moody testified as an expert:

United States v. Justin Standard, 2:21cr20134-MSN, United States District Court, Western District of Tennessee
United States v. James Jackson, 2:18cr20070-JTF, United States District Court, Western District of Tennessee

Request for Reciprocal Notice

Lastly, pursuant to Fed. R. Crim. Proc. 16(b)(1)(A), (B) and (C), the government requests that reciprocal discovery be provided by the defense.

If you have any questions about the information provided in this notice, please contact me at (662) 234-3351.

Sincerely,

CLAY JOYNER
United States Attorney
By: /s/ Clyde McGee
Clyde McGee
Robert Mims
Assistant United States Attorneys